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ENTRANCE EXAMINATION PAPERS

ENGLISH A

Answer three questions.

1. Give an account of the most important event in the life of any one of the following: Sydney Carton, Eppie, Alice Pyncheon, John Ridd, Quentin Durward, Beatrix Esmond, Bois-Guilbert.
2. Discuss the main idea in any essay of Irving, Lamb, DeQuincey, Carlyle, Emerson, or Ruskin.
3. Give your reasons for liking the work of the poet you have found the most interesting.
4. Write a letter as to a friend either telling your most interesting experience of the past summer, or giving your reasons for your choice of college in this university.

ENGLISH B

1. Explain the following passage:

This supernatural soliciting
Cannot be ill, cannot be good; if ill,
Why hath it given me earnest of success,
Commencing in a truth? I am Thane of Cawdor:
If good, why do I yield to that suggestion
Whose horrid image doth unfix my hair
And make my seated heart knock at my ribs,
Against the use of nature? Present fears
Are less than horrible imaginings;
My thought, whose murder yet is but fantastical,
Shakes so my single state of man that function
Is smother'd in surmise, and nothing is
But what is not.

2. How were the witches' prophecies in Macbeth fulfilled?
3. What became of Fleance, Malcolm, Banquo, Lady Macbeth, Lady Macduff?
4. Explain the italicised words in the following passage:

Methought it was the sound
Of riot and ill-managed merriment,
Such as the *jocund* flute or gamesome pipe
Stirs up among the loose *unlettered hinds*,
When, for their teeming flocks and granges full,
In wanton dance they praise the bounteous *Pan*,
And thank the gods amiss. I should be loth
To meet the rudeness and *swilled insolence*
Of such late *wassailers*; yet oh! where else
Shall I inform my *unacquainted* feet
In the *blind* mazes of this tangled wood?

I oft have heard
My mother *Circe* with the *Sirens* three.

Amidst the flowery-kirtled *Naiades*,
 Culling their potent herbs and baleful drugs:
 Who as they sung would take the prisoned soul
 And lap it in *Elysium*: *Scylla* wept,
 And chid her barking waves into attention,
 And fell *Charybdis* murmured soft applause.

5. Explain the following passage:

Alas! what boots it with uncessant care
 To tend the homely, slighted, Shepherd's trade,
 And strictly meditate the thankless Muse?
 Were it not better done, as others use,
 To sport with *Amaryllis* in the shade,
 Or with the tangles of *Neæra*'s hair?
 Fame is the spur that the clear spirit doth raise
 (That last infirmity of noble mind)
 To scorn delights and live laborious days;
 But the fair guerdon when we hope to find,
 And think to burst out into sudden blaze,
 Comes the blind Fury with the abhorred shears,
 And slits the thin-spun life. 'But not the praise,'
 Phœbus replied, and touched my trembling ears.

6. Comment on the style of Macaulay or of Carlyle.

7. (Answer *a* or *b*).

a. What were the main objections that Burke was trying to meet in his Speech on Conciliation?

b. What are the chief principles laid down by Washington in the Farewell Address?

GREEK

A. XENOPHON

1. Translate into clear, idiomatic English:

Ἐγώ, ὦ ἄνδρες Ἕλληνες, γείτων οἰκῶ τῇ Ἑλλάδι, καὶ ἐπεὶ ὑμᾶς εἶδον εἰς πολλὰ καὶ ἀμήχανα πεπτωκotas, εὐρημα ἐποιήσαμην εἰ πως δυναίμην παρὰ βασιλέως αἰτήσασθαι δοῦναι ἐμοὶ ἀποσῶσαι ὑμᾶς εἰς τὴν Ἑλλάδα. οἶμαι γὰρ ἂν οὐκ ἀχαρίστως μοι ἔχειν οὔτε πρὸς τῆς πάσης Ἑλλάδος. ταῦτα δὲ γινούσῃ 5 βασιλεῖα, λέγων αὐτῷ ὅτι δικαίως ἂν μοι χαρίζοιτο, ὅτι αὐτῷ Κύρῳ τε ἐπιστρατεύοντα πρῶτος ἤγγειλα καὶ βοήθειαν ἔχων ἅμα τῇ ἀγγελίᾳ ἀφικόμην, καὶ μόνος τῶν κατὰ τοὺς Ἕλληνας τεταγμένων οὐκ ἔφυγον, ἀλλὰ διήλασα καὶ συνέμιξα βασιλεῖ ἐν τῷ ὑμετέρῳ στρατοπέδῳ . . . καὶ περὶ μὲν τούτων ὑπέσχετό μοι 10 βουλεύεσθαι· ἔρεσθαι δέ με ὑμᾶς ἐκέλευεν ἐλθόντα τίνας ἐνεκεν ἐστρατεύσατε ἐπ' αὐτόν. καὶ συμβουλευῶ ὑμῖν μετρίως ἀποκρίνασθαι, ἵνα μοι εὐπρακτότερον ᾦ ἔάν τι δύνωμαι ἀγαθὸν ὑμῖν παρ' αὐτοῦ διαπράξασθαι.

B. GRAMMAR

1. Give the principal parts of: πεπτωκotas (l. 2), τεταγμένων (l. 7), and ἐλθόντα (l. 9); tell the tense of ἀφικόμην (l. 6) and ἤγγειλα (l. 6), and state the grounds for your decision.

2. State the rule of accent for enclitics, and the general rule of accent for verbs, naming two forms of the verb where exceptions occur.

3. Explain the mood of (a) *χαρίζοιτο* (l. 6), accounting for *ἄν*, and (b) *δύνωμαι* (l. 13); explain the syntax of *ἄν* (*ἄν* . . . *ἔχειν* l. 4).

C. COMPOSITION

Translate into Greek:

1. If they were good men, they would not be doing this.
2. I shall follow you and do whatever may be necessary.
3. Xenophon says that no one was loved by more men than Cyrus.

1. Translate at sight: (Generosity of Cyrus to Croesus)

ἐγὼ γὰρ σου ἐννοῶν πῇν πρόσθεν εὐδαιμονίαν οἰκτεῖρω τέ σε καὶ ἀποδίδωμι ἥδη γυναῖκά τε ἔχειν, καὶ τοὺς φίλους καὶ τοὺς θεράποντας καὶ τράπεζαν σὺν οἷα περ ἐξήτε· μάχας δὲ σοὶ καὶ πολέμους ἐφαιώ. Μὰ Δία μὴδὲν τοῖνυν, ἔφη ὁ Κροῖσος, σὺ ἐμοὶ ἐτι βουλεύου ἀποκρίνασθαι περὶ τῆς ἐμῆς εὐδαιμονίας· ἐγὼ γὰρ ἥδη σοὶ λέγω, ἣν ταῦτά μοι ποιήσης ἃ λέγεις, ὅτι ἦν ἄλλοι τε μακαριωτάτην ἐνόμιζον εἶναι βιοτήν καὶ ἐγὼ συνεγίγνωσκον αὐτοῖς, ταύτην καὶ ἐγὼ νῦν ἔχων διδάξω. καὶ ὁ Κῦρος εἶπε, τίς δὴ ὁ ἔχων ταύτην τὴν μακαρίαν βιοτήν; Ἡ ἐμὴ γυνή, εἶπεν ὁ Κῦρε.

D. HOMER

Translate (concerning Thetis and Zeus);

- δεξιτερῇ δ' ἄρ' ὑπ' ἀνθερέωνος ἐλοῦσα
 λισσομένη προσέειπε Δία Κρονίωνα ἀνακτα·
 "Ζεῦ πάτερ, εἴ ποτε δῆσε μετ' ἀθανάτοισιν ὄνησα
 ἥ ἔπει ἥ ἔργω, τόδε μοι κρήνην ἐέλδωρ·
 5 τίμησόν μοι νῖόν, ὃς ὠκυμωτάτος ἄλλων
 ἦπλετ'· ἀτὰρ μιν νῦν γε ἀναξ ἀνδρῶν Ἀγαμέμνων
 ἠτίμησεν· ἐλὼν γὰρ ἔχει γέρας, αὐτὸς ἀπούρας·
 ἀλλὰ σὺ πέρ μιν τίσον, Ὀλύμπιε μητίετα Ζεῦ,
 τόφρα δ' ἐπὶ Τρώεσσι τίθει κράτος, ὅφρ' ἄν Ἀχαιοὶ
 10 νῖόν ἐμὸν τίσωσιν, ὀφέλλωσιν τέ ἐ τιμῇ."
 ὥς φάτο· τὴν δ' οὔ τι προσέφη νεφεληγερέτα Ζεὺς,
 ἀλλ' ἀκέων ἦστο. Θέτις δ' ὥς ἥψατο γούνων,
 ὥς ἔχετ' ἐμπεφυυῖα, καὶ εἶρετο δεύτερον αὐτίς.
 "νημερτές μὲν δὴ μοι ὑπόσχεο καὶ κατάνενσον,
 15 ἥ ἀπύειπ', ἐπεὶ οὐ τοι ἔπι δέος, ὅφρ' ἐν εἰδῶ,
 ὅσσον ἐγὼ μετὰ πᾶσιν ἀτιμοτάτη θεὸς εἰμι.

1. Explain the case of *δεξιτερῇ* (l. 1), *ἄλλων* (l. 5), and *γούνων* (l. 12).
2. What forms would be expected in Attic prose instead of *ἐέλδωρ* (l. 4) *φάτο* (l. 11), and *ὅσσον* (l. 16).
3. What are the forms: *τίσον* (l. 8), *ἐμπεφυυῖα* (l. 13), and *εἰδῶ* (l. 15).
4. Write lines 15–16 and mark scansion.

LATIN

- (a) How much have you read of Caesar? Of Cicero? Of Virgil?
- (b) How much work have you done in prose composition?
- (c) Have you previously passed any part of the entrance examination in Latin?

I

LATIN GRAMMAR

1. Give the rules for the accent of Latin words.
2. Explain the difference of meaning between the expressions "long vowel" and "long syllable."
3. Decline: *pater familias, filius, deus, princeps, lapis, miles, nomen, mos, dos, nox, sus, vis, Jupiter, tener, vetus, vos, se.*
4. Give the comparative and superlative degrees of the following adjectives and adverbs: *acer, facilis, maledicens, male, parum.*
5. Give the principal parts of: *adjuvo, pareo, pario, paro, parco, placeo, placō, sedeo, vivo, vinco, video, venio.*
6. Write out the second person singular and plural of the perfect indicative and of the imperfect subjunctive (in both voices, if both exist) of *pono, possum, gero.*
7. Mention and illustrate eight different uses of the ablative case; six of the accusative; six of the genitive.
8. Mention the various demonstrative pronouns and distinguish each from the others in meaning.
9. Give an illustration in Latin of each of the following types of the subjunctive mood: hortatory, jussive, prohibitive, deliberative, concessive, optative.
10. When is the subjunctive required in clauses introduced by: (a) *qui*, (b) *antequam*, (c) *quod* in the sense of "because"?
11. Name and illustrate the various types of conditional sentences.

II

CAESAR

Translate:

Tum demum Liscus oratione Caesaris adductus, quod antea tacuerat, proponit: Esse nonnullos, quorum auctoritas apud plebem plurimum valeat, qui privatim plus possint quam ipsi magistratus. Hos seditiosa atque improba oratione multitudinem detertere, ne frumentum conferant, quod debeant: praestare, si iam principatum Galliae obtinere non possint, Gallorum quam Romanorum imperia perferre; neque dubitare, quin, si Helvetios superaverint Romani, una cum reliqua Gallia Haeduis libertatem sint erepturi. Ab isdem nostra consilia, quaeque in castris gerantur, hostibus enuntiari: hos a se coerceri non posse.

Write (in Latin) the direct discourse for this passage, beginning with *esse nonnullos*.

III

CICERO

Translate (a), if you have read the oration; otherwise (b).

(a) Nec vērō haec tua vīta dūcenda est, quae corpore et spīritū continētur; illa, inquam, illa vīta est tua, quae vigēbit memoriā saeculōrum omnium, quam posteritās alet, quam ipsa aeternitās semper tuēbitur. Huic tū inserviās, huic tē ostentēs oportet, quae quidem, quae mīrētur, jam pridem multa habet; nunc etiam, quae laudet, exspectat. Obstupēscent posterī certē imperia, prōvinciās, Rhēnum, Oceanum, Nilum, pūgnās innumerābilēs,

incrēdibilēs, victōriās, monumenta, mūnera, triumphōs audientēs et legentēs tuos. Sed nisi haec urbs stabilita tuis cōsiliis et institūtis erit, vagābitur modo tuum nōmen longē atque lātē, sēdem stabilem et domicilium certum nōn habēbit.

(b) Hīsce ōminibus, Catilīna, cum summā rei pūblicae salūte, cum tuā peste ac perniciē cumque eōrum exitiō quī sē tēcum omnī scelere parricidiōque jūnxērunt, proficiscere ad impium bellum ac nefārium. Tū, Juppiter, quī isdem, quibus haec urbs, auspiciis ā Rōmulō es cōstitūtus, quem Statōrem hūjus urbis atque imperī vēre nōmināmus, hunc et hūjus sociōs ā tuis cēterisque templis, ā tēctis urbis ac moenibus, ā vitā fortunisque cīvium arcēbis et hominēs bonōrum inimicōs, hostis patriae, latrōnēs Italiae scelerum foedere inter sē ac nefariā societāte conjūctōs, aeternis suppliciis vivōs mortuōsque mactābis.

IV

VIRGIL

Translate:

Diverso interea miscentur moenia luctu,
Et magis atque magis, quanquam secreta parentis
Anchisae domus arboribusque oblecta recessit,
Clarescunt sonitus, armorumque ingruit horror.
Excutor somno, et summi fastigia tecti
Ascensu supero, atque arrectis auribus adsto:
In segetem veluti cum flamma furentibus Austris
Incidit, aut rapidus montano flumine torrens
Sternit agros, sternit sata laeta boumque labores,
Præcipientesque trahit silvas; stupet inscius alto
Accipiens sonitum saxi de vertice pastor.

Write out the first four lines, indicating each long *vowel* by a mark above it, and each long *syllable* by a mark under it. Give a very brief outline of each of the first six books of Virgil's Aeneid. When did Virgil live and what did he write besides the Aeneid? How many books are there in the Aeneid?

V

THE WRITING OF LATIN

Translate into Latin:

1. He was informed that all had departed from Rome by night.
2. If you had remained with me, we should have enjoyed our villa together.
3. What shall I do? Do you think I ought to have sent soldiers to capture the town?
4. Why does it concern you whether I remain at home or go to the country?
5. He feared that the bridge could not be destroyed.
6. Though you suffer every calamity, do not forget your duty.
7. Pausanias came to the aid of the Athenians.
8. He was persuaded not to do anything that would bring so great disgrace upon his country.
9. He was taught many languages and he had an opportunity to use them all.

GERMAN

N. B. State whether you desire credit for Elementary or Advanced German, also where and how long you have studied German.

The examination in Elementary German includes all parts of this paper except questions III, IV, and VII.

The examination in Advanced German includes all parts of the paper except questions I and VI.

I

Translate:

Die ungleichen Teile

Ein Fischer hatte einen außerordentlich großen Fisch gefangen; er beschloß ihn dem König zu bringen, der ein Liebhaber von Seltenheiten war. Er kam mit seinem Fische und verlangte den König zu sprechen; der Diener wollte ihn aber nicht vorlassen, bis er ihm die Hälfte von dem versprach, was er vom Könige bekommen würde. Der König bewunderte den Fisch und befahl, dem Ueberbringer hundert Taler zu geben. Als der Fischer den Befehl hörte, sagte er: Nein, gnädiger Herr, nicht hundert Taler, sondern hundert Stockstreich. Verwundert fragte der König nach dem Grunde solcher Rede. Da erzählte der Fischer, wie er nicht eher vorgelassen worden sei, als bis er dem Diener die Hälfte von dem, was der König ihm geben würde, versprochen hatte. Da sagte der König: „Du sollst hundert Taler und hundert Stockstreich für deinen Fisch bekommen; du nimmst die Taler, und der Diener die Streiche.“ Und dabei blieb es. 5 10

a) Give the principal parts of the verbs: *gefangen* (l. 1), *beschloß* (l. 2), *bringen* (l. 2), *kam* (l. 3), *versprach* (l. 4), *geben* (l. 6), *fragte* (l. 8), *vorgelassen* (l. 9).

b) Inflect the following verbs in the tenses in which you find them: *erzählte* (l. 9), *sei* (l. 10), *nimmst* (l. 12), *blieb* (l. 13).

c) Decline the following in both numbers: *seinem Fische* (l. 3), *der König* (l. 5), *gnädiger Herr* (l. 7), *die Hälfte* (l. 10).

II

Translate:

Das regte nun Hühnchen wieder an, aus dem Schatze seiner Erfahrungen ähnliche Geschichten heraufzuholen, von dem eisernen Ofen, welchen er erfunden, der nur des Morgens einmal aufgezo- gen zu werden braucht, wonach er so lange in der Stube umherläuft, bis er warm geworden ist, sich dann in die Ecke stellt und heizt. Oder von dem Mausefallentier auf Borneo, welchem die Natur einen Odem verliehen hat, der ganz lieblich nach gebratenem Speck duftet, wodurch es die Mäuse, welche ihm zur Speise dienen, in seinen Rachen lockt. Während nun die beiden also sich anlogen, ward es Frau Lore allmählich zu viel von dieser Sorte und sie brachte ein wenig Musik in Vorschlag. Dies wurde von allen Seiten mit Vergnügen aufgenommen, und das Fräulein mußte trotz alles Strebens ans Klavier, nachdem es sich herausstellte, daß sie Noten mitgebracht hatte. Sie wußte das zwar nicht gewiß, aber bei näherem Nachsuchen fanden sich in ihrem Pompadour eine ganze Menge vor. Die Dame war fast verwundet darüber: sie müsse dies ganz in Gedanken getan haben, sie sei oft so hingenommen von ihren Ideen. 15 20 25 —Seidel.

III

Translate:

Gefler

30

Deffnet die Gasse—Frisch, was zauderst du?
 Dein Leben ist verwirrt, ich kann dich töten;
 Und sieh, ich lege gnädig dein Geschid
 In deine eigne kunstgeübte Hand.

Der kann nicht klagen über harten Spruch,
 Den man zum Meister seines Schicksals macht.
 Du rühmst dich deines sichern Blicks. Wohl!an!

35

Hier gilt es, Schütze, deine Kunst zu zeigen;
 Das Ziel ist würdig, und der Preis ist groß!

Das Schwarze treffen in der Scheibe, das
 Kann auch ein andrer; der ist mir der Meister,
 Der seiner Kunst gewiß ist überall,
 Dem's Herz nicht in die Hand tritt, noch ins Auge.

40

Walther Fürst (wirft sich vor ihm nieder.)

Herr Landvogt, wir erkennen eure Hoheit;
 Doch lass'et Gnad' vor Recht ergehen, nehmt
 Die Hälfte meiner Habe, nehmt sie ganz!
 Nur dieses Gräßliche erlass'et einem Vater!

45

Walther Tell

Großvater, knie nicht vor dem falschen Mann!
 Sagt, wo ich hinstehn soll! Ich fürcht' mich nicht.

50

—Schiller.

IV

Translate:

Da versetzte behend die gute, verständige Mutter:

„Stehen wie Felsen doch zwei Männer gegen einander!

Unbewegt und stolz will keiner dem andern sich nähern,

Keiner zum guten Worte, dem ersten, die Zunge bewegen.

55

Darum sag' ich dir, Sohn: noch lebt die Hoffnung in meinem

Herzen, daß er sie dir, wenn sie gut und brav ist, verlobe,

Ogleich arm, so entschieden er auch die Arme versagt hat.

Denn er redet gar manches in seiner heftigen Art aus,

Das er doch nicht vollbringt; so gibt er auch zu das Versagte.

60

Aber ein gutes Wort verlangt er und kann es verlangen;

Denn er ist Vater! Auch wissen wir wohl, sein Zorn ist nach Tische,

Wo er heftiger spricht und anderer Gründe bezweifelt,

Nie bedeutend; es reget der Wein dann jegliche Kraft auf

Seines heftigen Wollens, und läßt ihm die Worte der andern

65

Nicht vernehmen; er hört und fühlt alleine sich selber.“

—Goethe.

V

1. Give the principal parts of the strong verbs in passage II.

2. Decline in both numbers: *ähnliche Geschichten* (l. 15), *dem eisernen Ofen* (l. 15), *dem Mausefallentier* (l. 18), *das Fräulein* (l. 24), *seiner Erfahrungen* (l. 14).

3. Give the present and preterit indicative active and passive of the verbs: *brachte* (l. 22), and *aufgenommen* (l. 24).
4. Inflect in the mood and tense in which they are found, the verbs: *sich anlogen* (l. 21), *ward* (l. 22), *sich herausstellte* (l. 25), *müsse* (l. 28), *sei* (l. 28).
5. Name and explain all the subjunctives in passages I and II (lines 1-29).
6. Illustrate with sentences taken from the passages above, the three kinds of word order in German.
7. Give examples taken from passage II, of three different uses of the genitive.
8. Which case or cases do the following prepositions govern: *mit, auf, nach, zu, in, unter, während, neben, statt, vor, gegen*?
9. Decline in both numbers the personal pronouns *er, sie, es*, the relative *der, die, das*, and the interrogative *wer, was*.
10. Compare the adjectives *gut, schön, viel, angenehm, hart, edel, schwarz*.

VI

Translate into German:

There is a knock at the door. I wonder who it could be? The hand of the clock points to quarter past five. Come in! How do you do, my friends! Have you time to take a walk after your day's work? Yes, if you wait until I have finished this letter.

I studied at Heidelberg, the most beautiful of all cities on the Neckar and the Rhine. Sundays we visited the Castle, the following Wednesday we rowed on the river.

He is said to be wealthy, but he spends far too much money. He would have gone to Europe with Charles, if he had been able.

VII

Translate into German:

When I was a boy, I learned rowing (inf. *rudern*), and often rowed people across the Rhine. One day a very elegant gentleman came and said: "My boy, row me to the opposite shore". I was satisfied and begged him to sit down in my boat.

After a while, when we were out in the river, the gentleman looked at me and said: "Boy, can you read?" "No," I said. "Then you have lived a quarter of your life in vain," he replied.

"It is getting windy," I said, and looked upward. Then the man said: "Boy can you write?" When I said no again, he remarked: "Then you have lived half your life in vain".

Still looking upward, I noticed that the wind was getting stronger, and I told him, but he paid no attention (*achtgeben*) to it, and said the third time: "Boy, can you calculate (*rechnen*)"? He was very sorry for me, when I said no, and assured me: "Then you have lived three quarters of your life in vain".

Now the wind blew a gale, and I looked anxiously about. Suddenly the boat capsized (*umkippen*, wk. verb), and we were both in the water. "Can you swim?" I called to him. When he denied it, I cried out: "Then you have lived the whole of your life in vain". But fortunately some fishermen pulled him out alive.

ELEMENTARY FRENCH

I

1. Pronunciation; 2. Dictation.

II

1. Give feminine plural form of the following adjectives: vieux, frais, ancien, gros, cher, flatteur, public, faux, doux, blanc, populaire, nouveau.
2. State three general rules affecting the agreement of the participle in compound tenses, with a sentence illustrating each.
3. Write in French the names of the days of the week, of the months of the year, and of the seasons.
4. Write a synopsis in all tenses of the indicative, conditional, and subjunctive of: a. *mourir* in 3rd person plural; b. *venir* in 3rd person singular; c. *dire* in 2nd person plural; d. *savoir* in 1st person singular.
5. Inflect the following tenses: a. present subjunctive of *vouloir*; b. imperfect indicative of *écrire*; c. future indicative of *devoir*; d. preterite indicative of *mettre*; e. imperfect subjunctive of *vivre*; f. pluperfect subjunctive of *arriver*; g. pluperfect indicative of *aller*; h. present conditional of *tenir*; i. present indicative of *paraître*; j. present subjunctive of *prendre*; k. imperfect subjunctive of *voir*; l. present subjunctive of *faire*.

III

Translate:

1. I wish you to go with me to church tomorrow morning.
2. He has some English books, but he has no French books.
3. At what time did she arrive?
4. Here are some flowers which I bought yesterday at the market.
5. I am never cold, even when it is very cold weather.
6. Do you like apples? If you do, I am going to buy some for you.
7. Almost all Germans speak either English or French.
8. I do not know yet what I shall do next summer. I should like very much to take a trip in Europe, where there are so many interesting things to see.
9. If you are not here at quarter-past eight, I shall not wait for you any longer.
10. She is five years older than her brother.
11. When one is hungry, one must eat something.
12. She has cut her hand, and will not be able to do anything before next Tuesday.
13. Here are two books on my table: this one has been there for a week; that one has just appeared and I hope to read it this evening.
14. English is spoken almost everywhere in the United States.
15. Here are two hats that I paid fifteen francs for.
16. Tell me which one of these two streets will lead me to the cathedral.
17. If I had all I need, I should begin to study my lessons.
18. She had made a mistake in supposing that I had given him the ticket.
19. If you have any money, give me some; but if you haven't any, go and ask your father for some.
20. Tell him whether you think that he ought to speak of it to the others.

IV

Translate:

1. Les peuples du Nord ont existé, pendant plusieurs siècles, dans un état tout à la fois social et barbare, qui a *dû* longtemps laisser parmi les hommes beaucoup de souvenirs grossiers et féroces. Shakspeare conserve encore des traces de ces souvenirs. Plusieurs de ses caractères sont *peints* avec les seuls traits admirés dans ces siècles où l'on ne *vivait* que pour les combats, la force physique et le courage militaire.

Shakspeare se *ressent* aussi de l'ignorance où l'on était de son temps sur les principes de la littérature. Ses pièces sont supérieures aux tragédies grecques pour la philosophie des passions et la connaissance des hommes, mais elles sont beaucoup plus reculées sous le rapport de la perfection de l'art. Des longueurs, des répétitions inutiles, des images incohérentes *peuvent* être souvent reprochées à Shakspeare. Le spectateur était alors trop facile à intéresser, pour que l'auteur fût aussi sévère envers lui-même qu'il aurait dû l'être. Il faut, pour qu'un poète dramatique se *perfectionne* autant que son talent peut le *permettre*, qu'il ne s'*attende* à être jugé, ni par des vieillards blasés, ni par des jeunes gens qui trouvent leur émotion en eux-mêmes. M^{me}. de Staël.

a. Give principal parts of *dû*, *peints*, *vivait*, *ressent*, *peuvent*, *permettre*.

b. Explain mood of *perfectionne*, *attende*.

2. Mon ami, que vous dire? je viens de voir cette chose inouïe. Je n'en suis qu'à quelques pas. J'en entends le bruit. Je vous écris sans savoir ce qui tombe de ma pensée. Les idées et les images s'y entassent pêle-mêle, s'y précipitent, s'y heurtent, s'y brisent, et s'en vont en fumée, en écume, en rumeur, en nuée. J'ai en moi comme un bouillonnement immense. Il me semble que j'ai la chute du Rhin dans le cerveau. J'écris au hasard, comme cela vient. Vous comprendrez si vous pouvez.

V. Hugo: La Cataracte du Rhin.

a. Give principal parts of all irregular verbs in this passage.

ADVANCED FRENCH

I

1. Pronunciation; 2. Dictation.

II

1. Write sentences illustrating the use of the subjunctive: in purpose clauses; after certain impersonal verbs; in relative clauses following an adjective in the superlative; after an expression of emotion; in concessive clauses; and in a proviso.

2. Write three French sentences illustrating three rules affecting the agreement of the past participle in compound tenses.

3. Name five verbs that require no preposition before a dependent infinitive; five that require the preposition *de*; five that require the preposition *à*.

III

Inflect the following tenses: a. present subjunctive of *vaincre*; b. imperfect subjunctive of *conclure*; c. present indicative of *vêtir*; d. preterite indicative of *concevoir*; e. imperfect subjunctive of *coudre*; f. future indicative

of *courir*; g. pluperfect subjunctive of *s'en aller*; h. present indicative of *mouvoir*; i. present conditional of *conquérir*; j. present subjunctive of *appeler*; k. present indicative of *mener*; l. pluperfect indicative of *souffrir*.

IV

Translate:

1. At the moment of beginning the study of French, one of the most difficult questions in which one can engage one's self is the pronunciation. It is of the greatest importance, however, that the student apply himself seriously to gaining as clear an idea as possible of the exact pronunciation of the combinations of vowels and consonants that are met most frequently. It is necessary to listen attentively to what the professor says, and to try to reproduce the sounds that one hears, until the organs of speech become more and more supple.

2. When Mother Angélique was only twenty years old, a hard task was imposed upon her. The king wished to reform the manners of one of the numerous convents which were found in the neighborhood of Paris in the 17th century. This young woman was commanded to go and drive out Madame d'Estrées and to install herself in her place. When she presented herself at the door of the convent she found a troop of soldiers lined up in front of it, who forbade her to enter. After having prayed, and without any one suspecting her intention, she walked straight up to the door, opened it and announced that she had come to stay. It is difficult to resist such courage as that, and everybody retired without saying a word.

Task = tâche; neighborhood = voisinage; drive out = chasser; line up = ranger.

3. Translate the following phrases.

- a. Je me moque de ce que vous venez de me dire.
- b. Je me doutais de son amitié.
- c. Vous avez beau crier.
- d. Quoi qu'il en soit, voilà la vérité.
- e. Il en est de même des autres cas.
- f. Je me plains de vos manières.
- g. Je me passe volontiers de vin.
- h. L'habit est usé.
- i. Comment faut-il m'y prendre?
- j. Il ne tient pas à moi qu'il ne vienne pas.

V

a. Translate:

La vieille maison de la rue Saint-Victor fut ainsi, pendant quelques années, la maison de France où il y eut le plus de noms historiques ou connus; y obtenir une place pour un jeune homme était une grâce chèrement marchandée. Les sommes très considérables dont les familles riches achetaient cette faveur servaient à l'éducation gratuite des jeunes gens sans fortune qui étaient signalés par des succès constants. La foi absolue de M. Dupanloup dans les études classiques se montrait en ceci. Ces études, pour lui, faisaient partie de la religion. La jeunesse destinée à l'état ecclésiastique et la jeunesse destinée au premier rang social lui paraissaient devoir être élevées

de la même manière. Virgile lui semblait faire partie de la culture intellectuelle d'un prêtre au moins autant que la Bible. Pour une élite de la jeunesse cléricale, il espérait qu'il *sortirait* de ce mélange avec des jeunes gens du monde, *soumis* aux mêmes disciplines, une teinture et des habitudes plus distinguées que celles qui résultent de séminaires peuplés uniquement d'enfants pauvres et de fils de paysans. Le fait est qu'il réalisa sous ce rapport des prodiges. Composée de deux éléments en apparence inconciliables, la maison avait une parfaite unité. L'idée que le talent primait tout le reste étouffait les divisions, et, au bout de huit jours, le plus pauvre garçon débarqué de province, gauche, embarrassé, s'il faisait un bon thème ou quelques vers latins bien tournés, était l'objet de l'envie du petit millionnaire qui payait sa pension sans s'en douter.

RENAN.

- b. Give principal parts of verbs in italics.

ELEMENTARY SPANISH

I

1. Pronunciation; 2. Dictation.

II

1. Write the feminine plural form of the following adjectives: *cortés, traidor, holgazán, feliz, inglés, hablador, peor, francés, tenaz*.

2. Write a synopsis in all the simple tenses of the indicative and subjunctive of: a. *hacer* in first person plural; b. *sentir* in third person plural; c. *decir* in first person singular; d. *empezar* in third person singular.

3. Inflect without pronouns the following tenses: a. present indicative of *crecer*; b. present subjunctive of *saber*; c. present conditional of *querer*; d. preterite indicative of *traer*; e. perfect subjunctive of *abrir*; f. present subjunctive of *oir*; g. preterite indicative of *ir*; h. present indicative of *servir*; i. present indicative of *caer*; j. future indicative of *poner*.

4. Inflect all the personal pronouns.

III

Translate:

1. My uncle has a large house in the country where he has been living for five years.

2. I am thinking about what you told me last night at the theatre.

3. In our library there are a great many old books which were bought years ago and which are worth nothing.

4. If you have my brother's pencils, please give them to him.

5. When it is cold I stay in the house; but when it is warm I like to go out for a walk.

6. I shall be at home Tuesday afternoon at half-past three; come to see me and we'll take a cup of tea.

7. Two friends of mine have just come back from Europe much poorer than they were before their journey.

8. If I had the money, I should like to travel in Spain and visit the old Spanish cities.

9. It is too bad that he has nothing to do.

10. Tell me where I can find someone who speaks English.

11. If it should be fine weather Sunday, we should go to church; but if it should rain, I do not know what we should do.
12. How old is Mary? She is eighteen,—two years older than I.
13. I am sorry that there are not more pupils in this class.
14. It is ten o'clock; I am sleepy and am going to bed.
15. I shall have to work hard in order to finish these lessons before my father and mother arrive.

IV

Translate:

1. En lo que á mí toca, yo consideraba en aquel instante al género humano de un modo que no lo había considerado nunca: no ya como una especie privilegiada que cumple estos ó aquellos destinos en el mundo; no como *actores* del gran teatro del universo; no como los personajes principales del largo drama que llamamos Historia, sino únicamente como *espectadores* alojados en un pequeño planeta, como simples pobladores de nuestro globo, como accidentes de la creación, como testigos de la marcha misteriosa de mil mundos. Las ciencias, la política, la filosofía, los odios, las ambiciones, el amor, la guerra, el infortunio, todo lo que constituye nuestra cotidiana vida, había perdido su interés en aquel momento. Todos los hombres resultaban iguales. Un poder superior, la incontrastable fuerza que rige los orbes, les hacía pensar en cosas más grandes que la sociedad y que la civilización. ¿Qué eran, qué podían ser las potestades humanas, cuando mundos enteros aparecían como frágiles barquillas perdidas en el infinito espacio, y se les veía navegar á merced del potente soplo que los empuja por sus misteriosos derroteros?

Alarcón.

2. —No—exclamó de súbito Agustín, con tan vivo arrebató de ira, que todos temblamos al verle y oírle.—No, no consiento á nadie, ni aun á mi padre, que injurie á María delante de mí. Yo la amo, y si antes lo he ocultado, ahora lo digo aquí sin miedo ni vergüenza para que todo el mundo lo sepa. Señor, usted no sabe lo que está diciendo, ni cuánto falta á lo verdadero, sin duda porque le han engañado. Máteme usted si le falto al respeto, pero no la infame delante de mí, porque oyendo otra vez lo que he oído, ni la presencia de mi propio padre me reportaría.

Galdós.

ADVANCED SPANISH

I

1. Pronunciation; 2. Dictation.

II

1. Write in Spanish a brief summary of some modern Spanish novel.
2. Name three modern Spanish writers and give in English a brief account of their writings.

III

Translate into Spanish:

François Villon lived in an age when one hundred years of constant warfare had reduced the people of France to a condition of poverty and misery; crime and debauchery ruled in the cities, and lawlessness prevailed throughout the country. Villon was the product of a vicious and licentious age. He was a man of genius, and his character was marked by all the frailties

that so often exist in men of his stamp. He was a poet, a vagabond, a thief and a profligate.

debauchery = libertinaje, m. lawlessness = desorden, m. profligate = libertino, m.

IV

Translate:

La familia de Solis continuaba incomunicada con sus vecinos.

Sólo entraban en aquella casa D. Casimiro y el fraile. Éste, á pesar de sus consejos, había sabido ingeniarse, volver á la gracia y recobrar la confianza de aquella adusta señora. No es tan llano desechár á un director espiritual, á quien se tiene por santo ó poco menos, aunque este director nos contrarie, y sobre todo haga cosas opuestas á nuestro modo de pensar. La mayor falta del P. Jacinto, lo que apenas acertaba á explicarse Doña Blanca, era que aquel virtuoso varón, aquel hijo de Santo Domingo de Guzmán, fuese tan íntimo amigo de un hombre á quien debía más bien llevar á la hoguera, si los tiempos no estuviesen tan pervertidos y la cristiandad tan relajada.

Juan Valera.

V

Translate:

Velaban el cadáver, el padre, inclinado sobre el lecho mortuario, bajo el peso de un dolor enorme; la nodriza, deshecha en lágrimas; Adrián, con los ojos secos y brillantes, pálido, inmóvil, mudo, terrible, y el sacerdote, cruzado de brazos, con la cabeza caída sobre el pecho, murmurando piadosas oraciones.

Tal era el cuadro que el sol de aquella mañana sorprendió en el cuarto de Berta. Los pájaros del jardín llegaban hasta pararse en los hierros de la reja, pero no se atrevían á entrar; miraban inquietos, y huían despavoridos; piaban sobre las ramas de los árboles, y sus tristes gorjeos parecían gemidos.

Exhalando un suspiro, arrancado de lo más profundo del alma, Adrián Baker dijo con voz sorda:

— ¡ Infeliz de mí! . . . ¡ Yo la he muerto!

— Ah! Sí (exclamó el sacerdote, moviendo lentamente la cabeza).
¡ Justicia divina! . . . La duda mata.

José Selgas.

VI

Translate:

Apacentando un jóven su ganado,
Gritó desde la cima de un collado:
¡ Favor, que viene el lobo, labradores!
Estos, abandonando sus labores,
Acuden prontamente,
Y hallan que es una chanza solamente.
Vuelve á clamar, y temen la desgracia;
Segunda vez los burla : ¡ linda gracia !
¿ Pero que sucedió la vez tercera?
Que vino en realidad la hambrienta fiera.
Entonces el zagal se desgaita
Y por más que pateo, llora y grita,
No se mueve la gente escarmentada,
Y el lobo le devora la manada.

*¡ Cuántas veces resulta de un engaño
Contra el engañador el mayor daño!*

Félix Samaniego.

VII

1. Write a synopsis in the 1st person singular of all simple tenses of the irregular verbs found in division IV.
2. Explain in English the various uses of the Spanish past tenses.

ANCIENT HISTORY

I. Oriental History (answer 1 or 2).

1. Make a list of the Semitic nations and tell what each of them accomplished.
2. For what notable achievements are the following remembered: Hamurabi, Ramses II, Saul, Nebuchadnezzar, and Cyrus?

II. Greek History (answer two questions).

1. Describe as well as you can the objects discovered at two sites in the Aegean lands, excluding Athens.
2. Why did the Greeks emigrate to Italy and Sicily? Name two of their colonies in those lands. Who were their enemies in the western Mediterranean?
3. Why did Xerxes invade Greece? Why did his expedition meet with failure?

III. Greek History (answer two questions).

1. What did the Greeks mean by a tyranny, an aristocracy, a democracy, a demagogue, and a metropolis? Give an instance of each.
2. In what respects was Athens different from Sparta?
3. How did it happen that a Macedonian nobleman became king of Egypt? What was his name? What was the capital of his kingdom and how did it get its name?

IV. Roman History (answer two questions).

1. Whom do you regard as the greater general, Hannibal or Julius Caesar, and for what reasons?
2. Describe the political aims and methods of the Gracchi.
3. What causes contributed to the destruction of the old republican system in the first century before Christ?

V. Roman History (answer three questions).

1. In what respects were the Romans and their subjects better off under Augustus than in the latter days of the old republic?
2. Tell what you know about Marcus Aurelius.
3. How did Christianity become the religion of the Roman Empire?
4. Why, by whom, how, and when was the civil law of Rome codified?

MEDIEVAL AND MODERN HISTORY

GROUP I

Answer one question

1. What, in the Middle Ages, was a bishop? Who chose him, and how? What were his duties? What his sources of income?

2. What must a feudal baron do for his vassals? What for his peasants? What in return did he demand from them?

GROUP II

Answer two questions

1. What was a Crusade? Tell what you can of the Crusades whose destination was not the Holy Land.

2. What was the Renaissance, or Renascence? What did it do for painting? Name three of its greatest painters, saying a few words about each.

3. Name and describe the sorts of state church which grew out of what is called the Reformation. What religious bodies or religious movements beside state churches grew out of it?

4. Who were the Jesuits? Who was their founder, how did he organize them, and what did he mean them to do?

GROUP III

Answer one question

1. What lands in theory made up the Holy Roman Empire? What lands in practice? Which of the latter were before the end of the Middle Ages virtually lost to it? (Show all these on the map.)

2. Locate (on the map) five important battles in Napoleon's campaigns.

GROUP IV

Answer two questions

1. Montesquieu says: "Richelieu made his master the second man in the monarchy of France, but the first in Europe". Discuss.

2. To what extent did France profit or lose by the Treaties of Westphalia and Utrecht? What did Great Britain gain by the latter? Give dates. What wars did these treaties close?

3. Discuss the claims of Frederick II of Prussia to be styled "the Great".

GROUP V

Answer two questions

1. Voltaire says: "The nation which created Peter may well be proud of that hero, who was, as it were, the product of the meeting of the Russian national spirit with the general culture of the human race". Explain.

2. What were the principal events of the Seven Years' War, as affecting either Europe or America?

3. What were the French States-General, the Constituent Assembly, the Legislative Assembly, the National Convention, and the Directory? What three factions were clearly marked out in the Legislative Assembly?

AMERICAN HISTORY AND CIVICS

Preparation (answer all).

(a) Where have you studied American History? Where Civics?

(b) How much time did you give to each—weeks and recitations a week?

(c) What text-books did you use in each—author and title?

(d) In what other books have you read on either subject—author and title?

1. Exploration and Settlement (answer a or b).

(a) What effect had the existence of the Allegheny mountains upon the English settlements in America, upon the French settlements?

(b) Why were the shores of the Gulf of Mexico settled before the valley of the St. Lawrence?—give at least two reasons.

2. Biography—Tell what were the public services of one of the under-mentioned persons and mention the books, other than your text-book, in which you have read about him: (a) Benjamin Franklin, (b) Andrew Jackson, (c) Henry Clay.

3. Political History.

Choose a presidential campaign before 1900 and tell its date; the names and principles of the contending parties, whom each chose for its candidate, and why, and by what means or device; the outcome of the election; and the states or sections of the country that voted for the successful candidate and for the defeated candidate or candidates.

4. Material Development (answer a or b).

(a) Explain the importance of the fur trade to the colonies, its routes, methods, extent, markets, and the reasons for its decline.

(b) When and where were railroads introduced into the United States and what effects had they had upon (I) business and (II) public life by 1860?

5. Constitutional (answer a or b).

(a) Give the argument, as made in 1860, *either for or against* the existence of a constitutional right of secession.

(b) What is the Interstate Commerce Clause of the Constitution? Why was it inserted? Has its meaning or interpretation changed since 1789? If so how and why?

6. Current Civics (answer a or b).

(a) What is the second office in political importance in your state (name the state)? What are its powers and who occupies it to-day?

(b) Explain the powers of the Speaker of the House of Representatives.

ENGLISH HISTORY

GROUP I

Answer one or two.

1. When did the Romans come to England first? When did the final conquest take place? Under whom? When did the Romans leave? Why? What was the condition of England immediately after their withdrawal?

2. Outline (a) the work of Alfred the Great, or (b) the work of Dunstan.

GROUP II

Answer two questions.

1. What grievances did the barons have against John? What grievances had the church? How did John's quarrel with Innocent III hasten the advent of the Great Charter of 1215? Importance of the charter?

2. Write on the growth of the power of Parliament under the later Plantagenets (1272-1399). What were the principal means of controlling the king which Parliament secured in this period?

3. With reference to the treaties of Bretigny and of Troyes, give (a) approximate date of each, (b) names of kings on both sides, (c) terms of each.

GROUP III

Answer one or two.

1. Locate on map:—Watling street, Stamford bridge, Winchester, Oxford, Chester, Salisbury, York, Bristol, Trent river, Canterbury.

2. Locate on map: Flanders, Orleans, Rouen, Bordeaux, Seine river, Cherbourg, Garonne river, Agincourt, Calais, Brittany.

GROUP IV

Answer two questions.

1. Discuss fully Elizabeth's stand with regard to the religious question of the day, touching on (a) attitude of her immediate predecessor; (b) Elizabeth's attitude; (c) circumstances that forced her to adopt that attitude; (d) success of her policy.

2. Explain the causes, principal events, and terms of peace of the first Dutch war, fought under the Commonwealth.

3. How did the claims of France and England conflict in America? What causes of quarrel were there in India? How did the Treaty of Paris, in 1763, settle the controversies?

GROUP V

Answer two questions.

1. Write on the part played by England in the Napoleonic wars. Explain fully what contributed to the success of the English in those wars.

2. Describe one event of importance connected with each of the following: Palmerston, Peel, Wilberforce, Wilkes, Lord Durham.

3. Write on the causes, principal events, and outcome of the first Boer war, of 1881. What is the status of the Transvaal to-day?

ELEMENTARY ALGEBRA A

1. What number must be added to the numerator and subtracted from the denominator of the fraction $\frac{1}{13}$ to give its reciprocal?

2. Find the H. C. F. of

$$a^3 + 1, 3a^3 - 4a^2 + 4a - 1, 2a^3 + a^2 - a + 3.$$

3. Obtain the L. C. M. of

$$x^3 + 3x^2 - 6x - 8, x^3 - 2x^2 - x + 2, x^2 + x - 6.$$

4. Simplify the expression

$$\left\{ x + y - \frac{1}{x + y - \frac{xy}{x + y}} \right\} \frac{x^3 - y^3}{x^2 - y^2}.$$

5. A pedestrian finds that his uphill rate of walking is three miles an hour while his downhill rate is four miles an hour. If he walked 60 miles in 17 hours, how much of this distance was uphill?

6. Solve for x and y , given

$$\frac{x+y}{a} - \frac{x-y}{b} = 0, \quad \frac{x-a}{b} - \frac{y-b}{a} = 0.$$

7. Express $\frac{3\sqrt{2}-4}{3\sqrt{2}+4}$ correct to two places of decimals.

ELEMENTARY ALGEBRA B

1. Simplify $\left\{ \frac{1+i}{1-i} \right\}^4$.

2. Divide $a + 2\sqrt[5]{a}b + \frac{1}{b}$ by $\sqrt[5]{a+b}^{-\frac{1}{2}}$.

3. Solve the quadratic equations

$$\frac{bx}{a-x} + b = \frac{a(x+2b)}{a+b}; \quad 3x^2 + (9a-1)x - 3a = 0.$$

4. Find the largest and the smallest values the expression $\frac{x^2+2x-3}{x^2-2x+3}$ can have for real values of x .

5. The corners of a square the length of whose side is 2 are cut off in such a way that a regular octagon remains. What is the length of a side of this octagon?

6. In the expansion of $\left(3x - \frac{1}{2x}\right)^{10}$ write down the term not containing x .

7. Divide 38 into three parts which are in geometric progression and such that if 1, 2, 1 are added to these parts respectively, the results will be in arithmetic progression.

ADVANCED ALGEBRA

1. Two rectangles have the same altitude $\sqrt{189}$, and their bases differ by 4. If the difference of the diagonals is 2, find the bases of the rectangles.

2. Prove, and state the reason for each step, that

$$\log \left\{ \frac{\sqrt{1+x^2}-1}{\sqrt{1+x^2}+1} \right\} = 2 \left\{ \log (\sqrt{1+x^2}-1) - \log x \right\}.$$

3. Solve $mx-y=1$, $3(x-1)^2+y^2=1$ simultaneously. For what values of m are the two roots equal?

4. One root of the equation $3x^3-4x^2+5x+6=0$ is rational. Find all the roots without using Horner's method.

5. (a) If $y = \frac{1}{2}(e^x - e^{-x})$, simplify $\sqrt{1+y^2}$.

(b) Simplify $\left\{ (a^{-2})^{\frac{-2}{3}} \right\}^{\frac{-3}{4}} \cdot \left\{ (a^{-2})^{\frac{-3}{4}} \right\}^{\frac{-2}{3}} \div (a^{-\frac{3}{4}})^{\frac{-2}{3}}$

(c) Simplify

$$\left\{ \frac{1-u}{1+u} \right\}^{-\frac{1}{2}} \left[(1+u)^{\frac{2}{3}}(1-u)^{\frac{1}{3}} + (1-u)^{\frac{2}{3}}(1+u)^{\frac{1}{3}} \right] \div \left\{ 1 + \left\{ \frac{\sqrt{1-u}}{\sqrt{1+u}} \right\}^2 \right\}$$

6. Draw the graph of $9x^4 + 2x^3 - 3x^2 + 0.1$ and from this graph locate the real roots of $9x^4 + 2x^3 - 3x^2 + 0.1 = 0$. Find one root to two places of decimals.

7. Develop the determinant

$$\begin{vmatrix} 0 & x & 1 & 3 \\ x & 0 & -1 & 2 \\ 1 & 3 & 0 & 4 \\ -1 & 2 & 1 & 0 \end{vmatrix} = 0.$$

PLANE GEOMETRY

1. Define: a right angle, a circle, similar polygons, a rhombus, symmetry with respect to an axis.

2. Show how to bisect a given angle. Give proof.

3. If two chords intersect within a circle, their segments are reciprocally proportional.

4. Complete and prove the following statement: In any triangle the square of the side opposite an acute angle is equal to the sum of the squares.

5. The opposite angles of a quadrilateral inscribed in a circle are supplementary.

6. If similar polygons are described upon the three sides of a right triangle as homologous sides, what relation exists among the areas of the three polygons? Prove.

7. The side of a square inscribed in a circle is 25 meters; find the area of one of the segments of the circle that lie without the square, and the cost of gilding it at \$2.00 a square foot.

SOLID GEOMETRY

1. If two straight lines are perpendicular to a third at the same point, their plane is perpendicular to that straight line.

2. If the projections of a line on each of two intersecting planes are straight, the line itself must be straight except in one case. Prove the proposition and state the exception.

3. The volume of a triangular prism is equal to the product of its base and altitude. Extend the proof to the general theorem.

4. The straight lines joining the middle points of the opposite edges of a tetrahedron meet in a point and are bisected by that point.

5. In two polar triangles, each angle of one is measured by the supplement of the side of which its vertex is the pole in the other.

6. If any number of lines in space meet in a point, the feet of the perpendiculars drawn to these lines from another fixed point lie on the surface of a sphere.

7. The lateral area of a cone of revolution is equal to one-half the product of the circumference of its base and its slant height.

TRIGONOMETRY

1. If a is an angle in the second quadrant, derive directly from a figure the formulas which express the trigonometric functions of $\left(\frac{\pi}{2} + a\right)$ in terms of those of a . Find the numerical value of $\tan 210^\circ$.

2. From the formulas for $\sin 2a$ and for $\cos 2a$ derive the formula

$$\tan \frac{a}{2} = \frac{\sin a}{1 + \cos a}$$

Find the numerical value of $\tan 22\frac{1}{2}^\circ$.

3. Prove the identity

$$\frac{\csc 2a}{1 + \csc 2a} = \frac{1 + \tan^2 a}{(1 + \tan a)^2}$$

4. Solve the equation

$$2 \csc x - \cot x = 2 \sin x.$$

5. State and prove the law of cosines for an acute-angled triangle. By means of it find C if $a = 2$, $c = 3$ and $B = 60^\circ$.

6. Given the three sides, $a = 204$, $b = 321$, $c = 145$, find the angle B , using logarithmic functions.

7. Find the height of a chimney, if the angle of elevation of its top changes from 22° to 37° in walking toward it 140 ft. in a horizontal line through its base.

PHYSICS

1. Give an example showing how the resultant of two or more forces may be found in an actual case.

2. A cubic foot of water weighs 62.5 pounds. The specific gravity of a liquid is .6. What is its weight per cubic foot?

3. Give an accurate but brief description of some experiment you have performed in which you measured one of the following: Specific heat of a solid. Heat of fusion. Heat of vaporization. Show exactly how the result was found from the observed data.

4. Name three defects of vision which may be in part corrected by the use of lenses. Show by diagram how a converging lens forms an image.

5. How is electric current measured? Show by diagram the essential features of an instrument for current measurement and state the use of each part.

6. Give your reasons for believing that sound is due to vibrations and that it is propagated by wave motion.

CHEMISTRY

Answer eight questions, as indicated below.

A

Answer both questions in this group.

1. Define Chemistry, Neutral Reaction, Element, Hydrocarbon, Oxidation. State and illustrate the Law of Definite Proportions, and the Law of Multiple Proportions.

Describe two methods for the preparation of oxygen, writing equations to represent the reactions involved.

2. Write empirical and structural formulas for any five of the following substances: water, sulphuric acid, methane, ammonium chloride, sodium nitrate, calcium carbonate, cupric chloride.

Complete five of the following equations, using symbols and formulas:

acetylene + oxygen (ignited) =

potassium hydroxide + sulphuric acid =

cupric sulphate + hydrogen sulphide =
 ferric chloride + ammonium hydroxide =
 lead nitrate + sulphuric acid =
 potassium hydroxide + aluminum =

B

Answer only two questions from this group.

3. How may nitric acid be prepared? Write equation. What are the properties of nitric acid?

Describe briefly a method for the preparation of each of the following substances: nitric oxide, ammonia, nitrogen tetroxide, free nitrogen.

4. Name the compounds represented by the following formulas, and classify them as acids, bases, or salts:

SnCl_2 , $\text{Fe}(\text{OH})_3$, NH_4OH , NaOCl , H_3AsO_4 , HBr , $\text{Ca}(\text{OH})_2$, CuCl , FeSO_4 , HClO_4 .

5. Describe in detail a convenient laboratory method for the preparation of hydrogen. Draw a sketch of the apparatus employed, and mention any precautions that should be taken in order to prevent accident.

What volume of hydrogen, measured at 15°C . and 740 mm., would exactly combine with two liters of oxygen, measured at 18° and 745 mm., to form water, leaving neither gas present in excess?

C

Answer only two questions from this group.

6. What is meant by the term Electrolytic Dissociation?

When a current of electricity is passed (between carbon electrodes) through a solution of sodium sulphate colored with litmus, what changes may be noted? Explain as fully as possible.

7. What is the meaning of the term Nascent State? What are the properties of nascent hydrogen, as compared with ordinary hydrogen?

How may carbon dioxide be prepared? Give equation. Through what cycle does carbon pass in animal and vegetable life?

8. In what forms does sulphur occur in nature? Write the names and formulas of two oxides of sulphur. How may these compounds be prepared? What are their properties?

D

Answer both questions in this group.

9. What volume of a solution of hydrochloric acid containing 73 grams of HCl per liter will be required for the decomposition of 106 grams of sodium carbonate? What volume will be occupied under standard conditions by the carbon dioxide liberated?

(Atomic weights. $\text{H} = 1$, $\text{C} = 12$, $\text{O} = 16$, $\text{Na} = 23$, $\text{Cl} = 35.5$.)

10. What change in the volume occupied by a given quantity of gas takes place, (a) when the pressure is trebled? (b) when the temperature is raised from 0°C to $+273^\circ\text{C}$? State the two important generalizations embracing these facts.

BOTANY

Physiology

1. What is starch? Where is it found? Illustrate. Where and how is it formed? How and through what channels is it transferred to the different parts of plants?

2. Name three of the most important functions performed by leaves, three by the stem, and two by the roots.

3. What is protoplasm? Describe and illustrate a cell showing the parts, and describe the work of each part in absorption of water.

4. What is geotropism? Describe it in reference to the growth of roots, stems, and lateral roots.

General Morphology

1. Describe a complete flower, naming the parts. What is the difference between pollination and fertilization (i.e. fecundation)? Explain both processes.

2. Describe a moss plant, explaining the different phases in its complete life history.

3. Describe the staminate (male) cone of the pine; the pistillate (female) cone.

4. What are fungi, and how do they differ from the algae? Describe the life history and structure of a fungus.

Morphology, Taxonomy, and Ecology of the Higher Plants

1. Name and describe the external and internal parts of a seed. Show by a sketch the position of the parts.

2. How do leaves differ (a) as to general outline, (b) as to venation?

3. How are scientific names of plants formed? Give the scientific name of one monocotyledon and one dicotyledon, also the family and order to which the plants named belong.

4. Discuss the methods of seed dissemination, give instances where dissemination is effected (a) by the plant itself, (b) by the aid of some environmental agency.

ZOOLOGY

Invertebrate

1. Characterize the phylum protozoa and describe the structure and habits of an example.

2. Compare the structure and habits of hydra with ameba.

3. Discuss the specialization of function in the animal body. Illustrate with examples and diagrams.

4. Describe the method of taking food and of locomotion in the starfish. Describe the structures connected with these functions.

5. Describe the internal structure of a clam or a related form. Illustrate with diagrams.

6. Name and characterize the phylum to which the grasshopper belongs and make a diagram showing the divisions of the body and its appendages.

7. Define complete and incomplete metamorphosis. Name examples.

Vertebrate

1. Explain the application of the term vertebrate in the animal kingdom.

2. Name the different groups of animals which are known as vertebrates.

3. Discuss breathing, general environment and method and means of locomotion in each group.

4. Name the distinctive characters of turtles, snakes, lizards, and alligators. To what group of vertebrates do they belong?

5. Name a single character or group of characters distinctive of each of the following and name an example: fish, amphibian, reptile, bird, mammal.
6. Define: metamorphosis, larva, ovoparity, viviparity, ovoviviparity.
7. Describe the life-history of a vertebrate which passes through a metamorphosis.
8. Discuss the habits of any vertebrate with which you are familiar.

BIOLOGY

State briefly what biological subjects you have studied, with what proportion of recitation and laboratory work and for what periods. Any laboratory books or other work done in such courses may be submitted as supplemental to the answers to be written to the following questions.

Answer any ten questions.

1. Illustrate by diagrams the structure of a hydra and its mode of increase by budding.
2. Diagram the heart and the main channels of circulation in the human body.
3. Explain and illustrate division of labor in the body of any plant or animal.
4. Diagram the transformation stages of a mosquito or of a house-fly.
5. Illustrate by sectional diagrams the structure of earthworm, fish, or frog.
6. List a dozen common birds of your home neighborhood and state briefly their nesting and migration habits.
7. Explain how the food is prepared for absorption and how it gets to the cells of the body.
8. Diagram the lungs, and the passage-ways leading from them to the exterior.
9. How does the body get rid of the waste which results from the activities of the cells?
10. State how the body is benefitted by exercise.
11. Give an account of starch, its composition, its function in the plant, where formed and under what conditions.
12. Give an account of the structure of the seed and of its method of germination.
13. Diagram a flower, naming the constituent parts and stating the ordinary functions of each.
14. Give an account of the structure of any liverwort or moss.
15. Give an account, with simple diagrams, of the life-history of a fern.

PHYSIOGRAPHY

Text book work, answer five questions.

1. How do volcanoes differ (a) in the nature of their eruptions, (b) in the material of which their cones are composed, (c) in the shape and dimensions of their craters, (d) in the shape, height and slopes of their cones? Cite examples of each type described.
2. What is meant by the "water-table"? What relation has it to shallow wells? In what kind of rocks are most caverns developed? Why in such

rocks? What relation exists between the greatest depths of such caverns and the level of the surface drainage of the adjacent region?

3. Describe the changes in the shape of the cross section of a stream valley from youth to old age and account for them.

4. Trace the line of the southernmost extension of the Continental Glacier across the United States east of the Missouri River, and give a clear statement as to the difference in topography and hydrography (character of streams, presence of lakes, etc.) between regions in the glaciated area and south of it, with especial reference to the Central part of the United States.

5. In what planetary wind belt does the northern part of the United States lie? Explain the fairly regular alternation of cloudy, rainy, or snowy weather; and clear, cooler weather at intervals of from three to seven days in this wind belt.

6. Give a clear and concise definition of each of the following: (a) red clay, (b) residual soil, (c) consequent stream, (d) monadnock, (e) alluvial fan, (f) spring tide.

Laboratory work, answer three questions.

7. By use of contour lines make a topographic map of a mountain with a rounded summit, whose southern side is much steeper than the other slopes, rising from a plain at sea level to an elevation of 1,500 feet. The contour interval to be 100 feet, and the mountain four miles in diameter at the base, in an east west direction; and the horizontal scale of the map, one inch = one mile.

8. Give a short but clear account of an actual field excursion that you made in your course, indicating the physiographic phenomena studied and the nature of the observations you made.

9. Describe the physiography of one of the two topographic maps furnished you, putting the description under the following topics:

(a) the topography, plains or mountainous country with details as to slopes, arrangement of ridges, summits, etc.

(b) the drainage system, whether the region is arid or humid, whether stream valleys are young, mature or old in cross-section, slope of the main and tributary streams, etc.

(c) the effect of physiography on human settlement of the region—the density or sparseness of the population, the arrangement and number of the roads, the probable industries of the region.

(d) Any other deductions or observations you gain from a study of the map.

Be sure to write the name of the map at the beginning of your answers.

10. How would you identify and distinguish between specimens of (a) granite and calcite, (b) mica and horn-blende, (c) sandstone and limestone. State which are minerals and which rocks and if a rock whether it occurs in layers or masses.

11. Show by diagrams (a) the position of the sun and earth at the four seasons of the northern hemisphere, (b) the relative positions of the moon, earth and sun at Spring and Neap Tides; labeling each condition of the diagrams clearly.

If you have a laboratory note book, leave it with the examiner. It will be considered in making up the mark on this examination.

At the end of your paper state (a) where you studied physiography, (b) the text book used, (c) the titles of any supplementary books read in your class work, (d) the length of the course, (e) the amount and nature of the laboratory work.

AGRICULTURE

For one-half unit credit answer the first six questions.

For one unit credit answer each of the ten questions.

- I. a. Name the four most important breeds of dairy cattle.
b. Tell where each breed originated.
c. Give the characteristics by which each breed may be recognized.
- II. Explain in detail what are the advantages of under-drainage.
- III. Give the chief points to be observed in the production of sanitary market milk.
- IV. How much nitrate of soda containing 15 per cent nitrogen, acid phosphate containing 16 per cent phosphoric acid, and muriate of potash containing 50 per cent potash, will be required to make the equivalent of a ton of 2 : 8 : 5 fertilizer?
- V. What is meant by the term nutritive ratio, in calculating balanced rations?
- VI. How should Bordeaux mixture be made? What is the purpose of each ingredient used?
- VII. Describe the method of estimating the age of horses by the teeth.
- VIII. What spray materials are used to control sucking insects? To control biting insects?
- IX. A New York dairy farmer has 100 acres of fairly good land:
 - a. What crops should be grown on it for his purposes?
 - b. What acreage of each should be grown?
 - c. What rotation should be followed?
- X. A man has plowed a strip $6\frac{1}{2}$ rods wide with furrows 30 rods long. How many acres has he plowed? How many turns has he made if the plow cut 14 inches? How far has he travelled? How long did it take him if the team walked 2 miles per hour and if an average of 3 minutes was lost at each turn? How much did it cost him at the rate of 40 cents an hour for man and team?

DRAWING

Two examinations are given, one in freehand drawing and one in mechanical drawing. Applicants may take either, or by special arrangement may take both. The examination will be given and judged on the assumption that those taking it have had approximately 150 actual hours of instruction and practice for each $\frac{1}{2}$ credit point desired. One (1) point is the maximum credit allowed in the subject.

Freehand Drawing

For this examination the applicant is required to make a pencil sketch of an object or group of objects. The objects used may be geometrical blocks with straight and curved lines and curved surfaces, simple pieces of pottery, furniture, or models with simple lines and surfaces. The purpose of the examination is to test the ability of the applicant to draw accurately and sympathetically just what he sees. Shading may be required.

Mechanical Drawing

Questions may call for instrumental drawing of geometric constructions, orthographic and isometric projection, oblique section and intersection of solids, surface developments, etc., and working drawings of machine details, as bolts, nuts, pulleys, gears, various simple castings, etc. Data for the problems in any given examination will be furnished in the form of sketches or photographs with dimensions marked or stated.

SCHOLARSHIP EXAMINATION PAPERS

GREEK

A

Translate at sight. (Xenophon accused before the assembled army)

Τῇ δ' ὕστεραιᾳ ἄγουσιν ἐπὶ τὸ στράτευμα τοὺς Λάκωνας Σεύθης τε καὶ Ἡρακλείδης, καὶ συλλέγεται ἡ στρατιά· τῷ δὲ Λάκωνι ἐλεγέτην ὅτι Λακεδαιμονίοις δοκεῖ πολεμεῖν Τισσαφέρνει τῷ ἡμᾶς ἀδικήσαντι, ἣν οὖν ἵητε σὺν ἡμῖν τὸν τε ἐχθρὸν τιμωρήσεσθε· καὶ δαρεϊκὸν ἕκαστος οἶσει τοῦ μηνὸς ἡμῶν, λοχαγὸς δὲ τὸ διπλοῦν¹, 5 στρατηγὸς δὲ τὸ τετραπλοῦν καὶ οἱ στρατιῶται ἄσμενοί τε ἤκουσαν καὶ εὐθὺς ἀνίσταται τις τῶν Ἀρκάδων τοῦ Ξενοφῶντος κατηγορήσων· παρῇν δὲ καὶ Σεύθης βουλόμενος εἰδέναι τί πραχθήσεται, καὶ ἐν ἐπηκῷ εἰστέκει ἔχων ἑρμηνέα· συνίει² δὲ καὶ αὐτὸς ἑλληνιστὶ τὰ πλείστα, ἔνθα δὴ λέγει ὁ Ἀρκάς, "' Ἄλλ' ἡμεῖς μὲν, ὦ Λακεδαιμόνιοι, καὶ πάλοι ἂν ἦμεν παρ' ἡμῖν, εἰ μὴ Ξενοφῶν ἡμᾶς δεῦρο πείσας 10 ἀπήγαγεν, ἔνθα δὴ ἡμεῖς μὲν τὸν δεινὸν χειμῶνα στρατευσόμενοι καὶ νύκτα καὶ ἡμέραν πεπαύμεθα· ὁ δὲ τοὺς ἡμετέρους πόνους ἔχει³ καὶ Σεύθης ἐκείνους μὲν ἰδίᾳ πεπλούτικεν⁴, ἡμᾶς δὲ ἀποστερεῖ τὸν μισθόν, ὥστε ἐγὼ μὲν εἰ τοῦτον ἴδοιμι καταλευσθέντα⁵ καὶ δόντα δίκην ὧν ἡμᾶς περιεῖλκε, καὶ τὸν μισθὸν ἂν μοι δοκῶ ἔχειν καὶ οὐδὲν ἐπὶ τοῖς πεπονημένοις ἀχθεσθαι."

(1) double the amount. (2) understand. (3) in Greek. (4) reaps the fruits of. (5) made rich. (6) stoned to death.

B

GRAMMAR

1. State the rule for the use of λέγω, εἶπον, and φημί in indirect discourse.
2. Give the principal parts of ἀγω (1), οἶσει (4) and πείσας (9).
3. Explain the syntax of μηνός (4), Ξενοφώντος (6) and ὧν (13).
4. Write the forms under which the following words appear in the dictionary: εἰδέναι (7), νύκτα (10), and περιεῖλκε (13).
5. Write with proper accents and breathings: τὴν δε Ἑλληνικὴν δυνάμιν ἠθροίζεν ὡς μαλιστα εὐνᾶτο επικρυπτομενος, ὥπως οἱ ἀπαρασκευαστοὶ λαβοὶ βασιλεῖα.

C

COMPOSITION

Cyrus replied: "Do not be surprised that I am grieved over the present situation. For though it is impossible to have a greater province than that of my brother, I prefer to give all I have to my friends. You will I make masters of whatever we acquire and to the Greeks will I give crowns of gold. I shall never deem myself happy until I accomplish these purposes".

D
HOMER

Translate at sight:

ὥς αἱ μὲν ῥ' εὖχοντο Διὸς κούρῃ μεγάλῳ
 "Ἐκτωρ δὲ πρὸς δώματ' Ἀλεξάνδροιο βεβήκειν
 καλὰ, τὰ ῥ' αὐτὸς ἔτευξε σὺν ἀνδράσιν, οἳ τότε ἄριστοι
 ἦσαν ἐνὶ Τροίῃ ἐριβώλακι τέκτονες ἄνδρες·
 οἳ οἱ ἐποίησαν θάλαμον καὶ δῶμα καὶ αὐλήν
 ἐγγύθι τε Πριάμοιο καὶ Ἐκτορος ἐν πόλει ἄκρῃ.
 ἔνθ' Ἐκτωρ εἰσῆλθε διίφιλος, ἐν δ' ἄρα χειρὶ
 ἔγχος ἔχ' ἐνδεκάπηχυν· πάροιθε δὲ λάμπετο δουρὸς
 αἰχμὴ χαλκείῃ, περὶ δὲ χρύσεος θέε πόρκης¹.
 τὸν δ' εὖρ' ἐν θαλάμῳ πρικαλλέα τεύχε' ἔποντα,
 ἀσπίδα καὶ θώρηκα, καὶ ἀγκύλα τῶξ' ἀφῶντα·
 Ἀργεῖδ' δ' Ἑλένη μετ' ἄρα δμῶνσι γυναιξίν
 ἦστο καὶ ἀμφιπόλοισι περικλυτὰ ἔργα κέλευεν.

(1) *ferule*. (2) *ἔπειν* to be busy with. (3) *ἀφάειν*, to handle.

LATIN

1. "Quid ergo mei consili est? Facere, quod nostri maiores nequaquam pari bello Cimbrorum Teutonumque fecerunt; qui in oppida compulsi ac simili inopia subacti eorum corporibus, qui aetate inutiles ad bellum videbantur, vitam toleraverunt neque se hostibus tradiderunt. Cuius rei si exemplum non haberemus, tamen libertatis causa institui et posteris prodi pulcherrimum iudicarem. Nam quid illi simile bello fuit? Depopulata Gallia Cimbri magnaue illata calamitate finibus quidem nostris aliquando excesserunt atque alias terras petierunt; iura, leges, agros, libertatem nobis reliquerunt; Romani vero quid petunt aliud, aut quid volunt, nisi invidia adducti, quos fama nobiles potentesque bello cognoverunt, horum in agris civitatibusque considerare atque his aeternam iniungere servitutem? Neque enim ulla alia condicione bella gesserunt. Quod si ea, quae in longinquis nationibus geruntur, ignoratis, respicite finitimam Galliam, quae in provinciam redacta, iure et legibus commutatis, securibus subiecta perpetua premitur servitute".

—CAESAR, B. G., VII, 77.

Decline the phrases *pari bello*, *ulla alia condicione*.

Give the principal parts (in both voices, if both exist) of *compulsi*, *tradiderunt*, *excesserunt*, *considerare*, *redacta*, *premitur*. Write a synopsis, in both voices, of the last two in the second person singular.

Compare *pulcherrimum*, *adducti*, *potentes*.

What is the force of the mood and tense of *haberemus*, *ignoratis*?

What is the force of the case of *consili*, *corporibus*, *aetate*, *finibus*, *invidia*, *bello* (before *cognoverunt*)?

Explain the composition of *invidia*, *servitutem*, *nationibus*, giving prefix (if any), root, and suffix or suffixes taken on in the growth of the word, with the meaning of each of these parts.

2. *Quamobrem* sive hoc statueritis, dederitis mihi comitem ad contionem populo carum atque iucundum; sive Silani sententiam sequi malueritis,

facile me atque vos crudelitatis vituperatione populo Romano exsolvetis atque obtinebo eam multo leniorem fuisse. Quamquam, Patres conscripti, quae potest esse in tanti sceleris immanitate puniunda crudelitas? Ego enim de meo sensu iudico. Nam ita mihi salva re publica vobiscum perfrui liceat, ut ego, quod in hac causa vehementior sum, non atrocitate animi moveor (quis enim est me mitior?), sed singulari quadam humanitate et misericordia. Videor enim mihi videre hanc urbem, lucem orbis terrarum atque arcem omnium gentium, subito uno incendio concidentem; cerno animo sepultam patriam, miseros atque insepultos acervos civium; versatur mihi ante oculos adspectus Cethegi et furor in vestra caede bacchantis.

—CAT. IV, VI, II.

What was the course referred to in *hoc*, and by whom advocated? What was the result of the debate?

3. Translate:

VIRGIL

Omnis spes Danaum et coepti fiducia belli
Palladis auxiliis semper stetit. Impius ex quo
Tydides sed enim scelerumque inventor Ulixes
Fatale adgressi sacrato avellere templo
Palladium caesis summae custodibus arcis
Corripuere sacram effigiem manibusque cruentis
Virgineas ausi divae contingere vittas,
Ex illo fluere ac retro sublapsa referri
Spes Danaum, fractae vires, aversa deae mens. AEN. II, 162-170.

Write out three verses beginning with *Palladium*, indicating feet and caesuras, and marking the natural quantity of each vowel.

4. Translate:

The camp was taken, and those of the Egyptians who did not fall by the sword of the enemy were drowned in the Nile in the attempt¹ to escape to the fleet. Immediately after the battle Caesar advanced with his cavalry into the portion of the capital which was occupied by the Egyptians. The enemy received him, and sued for peace; and his troops, when they saw him return as victor, welcomed him with boundless joy. Caesar dealt with the Alexandrines as he had done with the Massiliots. Pointing to their severely² devastated² city, he exhorted the inhabitants henceforth to cultivate the arts of peace alone.

¹Use *dum*.

²Form adjective from *ruo* and *semi*.

MOMMSEN'S HISTORY OF ROME, BOOK V, CHAP. X.

GERMAN

I

Translate:

a. Gustav Adolph hatte schon am 5. November schlagen wollen, war aber trotz aller Eile erst gegen Abend bis in die Nähe des Feindes gekommen. Wäre des Königs Absicht gelungen und er nur zwei Stunden früher auf das Lützenfeld gekommen, so wäre Wallensteins zerstreutes Heer in üble Lage gerathen. Jetzt donnerten die kaiserlichen Signalkanonen, um die Heeresteile zusammenzurufen, und es blieb eine lange Nacht übrig,

Bappenheim mit den Kürassieren von Halle zu holen. Die Nacht war schwarz und wollte nicht enden, da am Morgen ein dicker Nebel alles bedeckte und den Beginn des Kampfes unmöglich machte.—Der König war verstimmt. Er ritt umher, um sich zu überzeugen, ob alles in Ordnung. Ueber den Koller von Elenschaut trug er einen grauen Ueberrock. Man bat ihn, wenigstens an solchem Tage einen Harnisch anzulegen. Er wollte nicht. Im polnischen Kriege nämlich hatte er bei Dirschau eine Schußwunde erhalten, und der Harnisch drückte ihn auf dieser Stelle. „Gott ist mein Harnisch!“ erwiderte er, als man nochmals in ihn drang.—Auch frühstückte er nichts. Die Nacht hatte er wiederum in einem Wagen verbracht mit Herzog Bernhard und dem General Kneiphausen. Nüchtern hatte er früh einen weißen Hengst bestiegen, und diesen ritt er müde, ehe noch die Schlacht begann. Der weiße Hengst strauchelte, und der König vertauschte ihn mit dem braunen, welchen er das Jahr vorher bei Breitenfeld geritten hatte.—Der Nebel wich nicht, man sah nur seine nächsten Nachbarn; Gustav Adolph selbst begann mit lauter Stimme den Gesang eines Psalms und darnach eines Liedes, welches er selbst kürzlich gedichtet, und das mit den Worten anhub: „Erschrick nur nicht, du kleiner Haufen!“ —Das Heer sah sich nicht, es hörte sich nur, und ein Nachbar mußte es dem andern sagen, daß Lützen brenne. Wallenstein hätte es anzünden lassen. —Laube.

b. Wie Rom ist Konstantinopel auf sieben Hügeln erbaut, deren Abgrenzung man deutlich erkennen kann. Sie bilden ein unregelmäßiges Dreieck, aber nur die eine Spitze desselben ist uns sichtbar: das sogenannte neue Serail, mit seinen buntverzierten Gebäuden, Palästen und Kiosks. Was aber der Stadt einen so wunderbaren, ja feenartigen Reiz verleiht und dem überraschten Beschauer den lauten Freudenruf entlockt, sind die zierlichen Minarets und die Haufen glänzender Kuppeln auf Moscheen und Grabmälern, die allenthalben emporragen. Man kann sie kaum zählen, und während das Auge gesättigt über der Mehrzahl derselben hinschweift, bleibt es bewundernd an einigen hängen, die durch Größe und schöne Bauart hervorglänzen, und deren Namen im empfänglichen Herzen tausend Bilder und Gedanken wecken.

Wer denkt nicht beim Anblicke jener prachtvollen Kirche, der Aja Sophia, die mit ihrer schönen Kuppel und den vier Minarets beinahe im Mittelpunkt der Stadt liegt, an ihren Erbauer, den prunkliebenden Justinian, der in ihr ein Werk hinstellen wollte, welches den Glanz des Salomonischen Tempels verdunkeln sollte. Es gelang ihm. Doch als der stolze Bau vollendet war und der Kaiser mit den Worten: „Salomon, ich besiege dich!“ an den Altar eilte, ahnte er wohl nicht, daß einst der Herrscher der Ungläubigen auf seinem Streitrosse in diese Hallen ziehen, mit eigener Hand die heiligen Zeichen des christlichen Glaubens zerbrechen und sprechen werde: „Es ist kein Gott, als Allah, und Muhamed ist sein Prophet!“ —Das Kreuz verschwand von der Höhe der Kuppel, und jetzt erhebt sich dort ein kolossaler, 28 Meter im Durchmesser haltender Halbmond, der dem Wanderer schon von Weitem über die Höhen entgegen glänzt.

—Hacklaender.

- c. Sei mir gegrüßt, mein Berg mit dem rötlich strahlenden Gipfel!
 Sei mir, Sonne, gegrüßt, die ihn so lieblich bescheint! 55
 Dich auch grüß' ich, belebte Flur, euch, säuselnde Linden,
 Und den fröhlichen Chor, der auf den Nesten sich wiegt,
 Ruhige Bläue, dich auch, die unermesslich sich ausgießt
 Um das braune Gebirg, über den grünenden Wald,
 Auch um mich, der endlich entflo'n des Zimmers Gefängnis 60
 Und dem engen Gespräch, freudig sich rettet zu dir.
 Deiner Lüfte balsamischer Strom durchrinnt mich erquickend,
 Und den durstigen Blick labt das energische Licht.

—Schiller.

- d. Als man bei Hofe vernahm, es komme Keineke wirklich, 65
 Drängte sich jeder heraus, ihn zu sehen, die Großen und Kleinen,
 Wenige freundlich gesinnt, fast alle hatten zu klagen.
 Aber Keineken dächte, das sei von keiner Bedeutung;
 Wenigstens stellt' er sich so, da er mit Grimbart, dem Dachse,
 Jeko dreist und zierlich die hohe Straße daher ging, 70
 Mutig kam er heran und gelassen, als wär' er des Königs
 Eigener Sohn, und frei und ledig von allen Gebrechen.
 Ja, so trat er vor Nobel den König, und stand im Palaste
 Mitten unter den Herren; er wußte sich ruhig zu stellen.

—Goethe. 75

II

1. Explain the construction of *schlagen wollen* (l. 1).
2. Name and explain all the subjunctives in the above passages.
3. Decline in both numbers: *das Lützener Feld* (l. 4), *der weisse Hengst* (l. 19), *seine nächsten Nachbarn* (l. 21, 22), *lauter Stimme* (l. 22).
4. Comment on the forms *gedichtet* (l. 26), *anhub* (l. 24), *erschrick* (l. 24), *sehen* (l. 66), *dächte* (l. 68).
5. Give a synopsis, in all tenses, indicative, active and passive, and subjunctive active of the third person singular of the verb *schlagen* (l. 1).
6. Write out a complete scheme of noun declensions (dividing them into classes, and stating what groups of nouns belong to each), and give examples.
7. Illustrate with German sentences the principles of German word order.
8. Name the inseparable prefixes of verbs. Where does the accent fall in the separable verbs? Can you give a reason?
9. Which are the prepositions that govern both the dative and the accusative cases? Illustrate with two German sentences the difference in their use.
10. Give a list of endings that determine (1) the feminine, (2) the masculine, (3) the neuter gender in nouns.

III

Translate into German:

- a. The student of the gymnasium must attend his classes regularly, unless he has a valid excuse. The university student has absolute freedom; he need never appear in the lecture room if he does not wish to. The German student has also entire liberty of electing as many or as few courses as he

pleases. There are no examinations until he wishes to receive his doctor's degree. But then he begins to understand the value of good work. He knows that he cannot pass the examinations unless he is well prepared. "All beginning is difficult," does not apply to the German university student, but rather: "All's well, that ends well".

b. Write in German (not less than 150 words) the plot of one of Schiller's dramas or of Goethe's *Hermann und Dorothea*.

FRENCH

I

Translate:

a. I have been here for a week and up to the present time everything is going well. I found last Tuesday a family boarding-house near the Latin Quarter and alongside the Luxembourg Garden. My room is on the third floor and looks out on the Garden. From my window I can see everything that goes on in the street, and I hear the omnibuses passing every moment. In the letter which I received yesterday, you say that you wrote me on the 18th of July. That letter I never received, and I wonder what has happened to it. Its loss is the more remarkable because the mail from America arrives very regularly every Monday. The next time you write, be careful of the address which is a little complicated. If the letter should arrive later, I should let you know, and should demand of the Post Office an explanation of its delay. You ask me if I need anything. Don't worry about me. You know that I need but very little to be happy, and that I complain but rarely. It has been hot for a few days, but I have not suffered the least bit. In the room below mine there are two young Germans whom I see at meals, so that I have the chance to speak German to them from time to time.

b. Molière, the greatest of all modern comic authors, was born in 1622 in one of the old quarters of Paris. His father was in the King's service and wished his son to choose the same business. His grandfather, they say, used to take the little fellow to the theatre, where performances were given which awakened the interest and the hidden talents of the child. Modern critics have supposed that these little expeditions to the theatre, under his grandfather's watch, had much to do with the development of that art which later was to render famous the son of the upholsterer.

II

Translate the following phrases.

- a. Prenez-vous-en à votre cousin.
- b. Elle sera moins à même de se rendre compte de votre conduite.
- c. Quel parti allez-vous prendre?
- d. Je m'en vais; je n'y tiens plus.
- e. J'ai appris à me passer de tout ce qui est de trop.
- f. Si vous m'en croyez, vous partirez tout de suite.
- g. Mon père ne sait à quoi s'en tenir.
- h. De quoi s'agit-il?
- i. Il a dû se remettre au travail.
- j. Je le lui ai fait faire.
- k. Il a fait des siennes.

1. Elle a failli manquer le train.
- m. Il me tarde de vous voir.
- n. Je vous remercie.—Il n'y a pas de quoi.

III

Translate:

- a. En vérité, monsieur, je suis de vous ravie;
Et je ne pensais pas que la philosophie
Fût si belle qu'elle est, d'instruire ainsi les gens
A porter constamment de pareils accidents.
Cette fermeté d'âme, à vous si singulière,
Mérite qu'on lui donne une illustre matière,
Est digne de trouver qui prenne avec amour
Les soins continuels de la mettre en son jour;
Et comme, à dire vrai, je n'oserois me croire
Bien propre à lui donner tout l'éclat de sa gloire,
Je le laisse à quelque autre, et vous jure, entre nous,
Que je renonce au bien de vous voir mon époux.

Molière: Les Femmes Savantes.

Explain subjunctives in this passage.

- b. Lorsqu'ils entrèrent chez la Reine, annoncés par des huissiers vêtus de noir et portant une verge d'ébène, elle était assise à sa toilette. C'était une sorte de table d'un bois noir, plaquée d'écaille, de nacre et de cuivre incrustés, et formant une infinité de dessins d'assez mauvais goût, mais qui donnaient à tous les meubles un air de grandeur qu'on y admire encore; un miroir arrondi par le haut, et que les femmes du monde trouveraient aujourd'hui petit et mesquin, était seulement posé au milieu de la table; des bijoux et des colliers épars la couvraient. Anne d'Autriche, assise devant et placée sur un grand fauteuil de velours cramoisi à longues franges d'or restait immobile et grave comme sur un trône, tandis que dona Stephanía et Mme de Motteville donnaient de chaque côté quelques coups de peigne fort légers, comme pour achever la coiffure de la Reine, qui était cependant en fort bon état, et déjà entre-mêlée de perles tressées avec ses cheveux blonds. Sa longue chevelure avait des reflets d'une beauté singulière, qui annonçaient qu'elle devait avoir au toucher la finesse et la douceur de la soie. Le jour tombait sans voile sur son front; il ne devait point redouter cet éclat, et en jetait un presque égal par sa surprenante blancheur, qu'elle se plaisait à faire briller ainsi; ses yeux bleus mêlés de vert étaient grands et réguliers, et sa bouche, très-fraîche, avait cette lèvre inférieure des princesses d'Autriche, un peu avancée et fendue légèrement en forme de cerise, que l'on peut remarquer encore dans tous les portraits de cette époque. Il semble que leurs peintres aient pris à tâche d'imiter la bouche de la Reine, pour plaire peut-être aux femmes de sa suite, dont la prétention devait être de lui ressembler.

De Vigny: Cinq-Mars.

ENGLISH

Answer the first question and three of the others.

1. Write a composition of 500-600 words (4-5 pages) on some subject drawn from your reading of the past year: e.g., My Favorite Author; An Interesting Novel; What I Like in Poetry.

2. Explain one of the following passages.

(a)

Had I but died an hour before this chance,
I had lived a blessed time; for, from this instant,
There's nothing serious in mortality;
All is but toys; renown and grace is dead.

(b)

We have scotch'd the snake, not kill'd it;
She'll close and be herself, whilst our poor malice
Remains in danger of her former tooth.
But let the frame of things disjoint, both the worlds suffer,
Ere we will eat our meal in fear, and sleep
In the affliction of these terrible dreams
That shake us nightly. Better be with the dead,
Whom we, to gain our peace, have sent to peace,
Than on the torture of the human mind to lie
In restless ecstasy. Duncan is in his grave;
After life's fitful fever he sleeps well;
Treason has done his worst; nor steel, nor poison,
Malice domestic, foreign levy, nothing
Can touch him further.

3. Develop in detail and with quotations from the poem the topic stated in the following sentence:

"Lycidas gathers up all the iridescent color and varied music of Milton's youthful verse; . . . and at the same time, by virtue of the moral passion which burns in it, it looks forward to the period of public combat into which the poet was about to plunge."

4. Name three of Johnson's works and give an account of the circumstances under which each was produced; or, explain what, in Carlyle's opinion, are the chief reasons for the excellence of Burns's poems.

5. Discuss one of the following.

(a)

Washington's ideas of national union.

(b)

"The leading reflection to which this occasion seems to invite us, respects the great changes which have happened in the fifty years since the battle of Bunker Hill was fought." Of what changes does Webster proceed to speak, and what are his comments?

(c)

The main features of Burke's project of conciliation.

FIRST MATHEMATICAL PAPER

1. Simplify

$$\left\{ \frac{1}{2\sqrt{1-\frac{1}{2}\left\{1+\frac{1}{\sqrt{1+x^2}}\right\}}} \right\} \quad \left\{ \frac{x}{\sqrt{\frac{(1+x^2)^{\frac{3}{2}}}{\frac{1}{2}\left\{1+\frac{1}{\sqrt{1+x^2}}\right\}}}}} \right\}$$

2. Given the equation

$$x^2 - 4xy + 3y^2 - 2x + 5y - 1 = 0$$

find the value of y in terms of x .

3. Solve the following equation for x , and state definitely the number of solutions which you find:

$$\frac{3}{x-1} = 1 + \frac{6}{x^2-1}.$$

4. A man can row twelve miles down a stream and back in 6 hours and 15 min. He can row 4 miles with the current in the same time that he can row 3 miles against it. Find the rate at which he can row in still water.

5. Find the length of the side of a regular decagon inscribed in a circle of radius 6 inches.

6. Let ABC be a triangle. Take D on AC so that CD is twice DA , and E on AB so that BE is twice EA . If BD and CE intersect at O , show that BO is three times OD , and CO three times OE .

7. Two triangles are similar if the three sides of one are proportional to the three sides of the other.

8. Construct an equilateral triangle equivalent to a given rectangle.

SECOND MATHEMATICAL PAPER

Give all the chief steps of your work and reasoning, clearly arranged and not crowded. Abridge and simplify the work when you can, explaining if necessary. Get your results into their simplest forms. In geometry give carefully constructed figures, and accompany all solutions with complete demonstrations. All clear abbreviations are allowed. The questions may be answered in any order.

1. If Cairo, Egypt, is in latitude 30° , show that its parallel of latitude bisects the surface of the northern hemisphere.

2. A stick of timber 14 ft. long has the shape of a frustum of a regular square pyramid with the edges of its ends 9 and 15 inches. Find the number of board feet in the stick.

3. Solve the two equations for x and y :

$$x^4 + y^2 + xy = x^2,$$

$$y = x^2 - 1.$$

4. Transform the equation $x^5 - 2x^3 + 3x^2 - x - 1 = 0$ into one whose roots are increased by 4.

5. The bisector of the vertical angle C of the triangle ABC meets the base AB at D , and the bisector of the exterior angle at C meets AB produced at E . Show that AD , AB , AE are in harmonic progression.

6. Determine, to two decimals, the least positive value of $\sin \theta$ from the equation

$$\sin \theta + \cos \theta + \tan \theta = 2.$$

7. If $x = \cot \theta + \tan \theta$ and $y = \sec - \cos \theta$, find, by eliminating θ , the relation between x and y .

8. Calculate, by use of the definition, the numerical value of $\cos(-30^\circ)$. By means of the result determine the values of all the trigonometric functions of 165° .



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